

NEW INVENTIONS.

Improved Bush for Mill-Stones.

Cyrenus Pelham, of Binghampton, Broome Co., N. Y., has made an important improvement on mill-stones. The improvement consists in operating a series of keys by means of wedges, screw-rods, pinions, and a circular rim, cogged on its inner periphery; the circular rim meshes into pinions or screw-rods, which pass through nuts attached to arms connected to the wedges; by turning the rim the wedges are raised or lowered and operate on keys, which bear against the spindle of the runner (upper stone). As the wedges are raised, the keys bind tighter against the spindle, and the contrary when the wedges are lowered. If the spindle is out of plumb-line, either one of the wedges may be raised independently of the others, or it may be lowered by raising the circular rim and turning the pinion of its screw-rod. The spindle may thus be brought in line with very little trouble. Measures have been taken to secure a patent.

Painting Window Shades.

Samuel T. Fields, of Worcester, Mass. has invented a useful improvement in painting window blinds, sashes, and other articles. The invention consists in a hollow stationary cylinder, box, or casing provided inside with suitable means, by which the blind, sashes, or other articles to be painted may be held securely, and revolved. The blind is first dipped into a trough containing a sufficient quantity of paint to cover it, and then secured within the cylinder, and a rapid motion given to it. The effect of the motion is to throw off the superfluous paint, and leave a proper quantity evenly distributed over the surface of the article so treated. The whole of the paint is thus retained in the vessel. This is a most excellent improvement for the painting of blinds and other articles of a like nature. The present mode of painting blinds is by hand, a tedious and therefore expensive system; the improvement will enable one man to put as many blinds through his hands in one day as 20 painters by hand. Measures have been taken to secure a patent.

Improvement in Railroad Carriages.

We learn by the Sherbrooke Gazette, Canada East, that a Mr. W. S. Hunter, Jr., of that place, has invented an improvement to lessen the disastrous effects of collisions on railways. His plan is to have the body of the cars made independent of the truck, and to have rails on a platform on the truck, and the carriage placed upon them in such a manner as to allow them to play backwards and forwards about four feet at each end, where powerful springs are placed to retain the carriage. The platform receives the shock, and the springs prevent the cars being smashed. Mr. Hunter also proposes to do away with the platforms at the ends of cars, and place the doors at the sides, allowing no person to get in and out except at stations, and then to step out on fixed platforms.

None of these plans are feasible, in our opinion. How could the conductor pass from car to car to see that all is right, if side doors alone were used? The locking of car doors was tried in France, and 40 persons were burned up by such a miserable system, on one occasion. The best way of preventing railway collision injuries, is to prevent collisions—that's the point to look for the remedy.

Multiplying Gearing.

Messrs. Frank Dibben & Louis Bollman, of this city, have invented a new combination of mechanical devices, for getting up and giving velocity to wheels, from a rotary prime mover, which is one of the most ingenious inventions we have seen for a long time. The rotary motion is transmitted by means of the difference of proportion between two pairs of toothed wheels or their equivalents. One wheel of each pair has a common fixed axis, the other wheels gearing into them have a common axis capable of revolving round the fixed axis. By the difference of proportion between the two pairs of wheels, a revolution of one will give 100 revolutions to another, but this is not done by the difference of the teeth in the wheels, but the posi-

tions of their axes, and they might well be termed eccentric cog multiplying gearing.

Attaching Hubs to Axles.

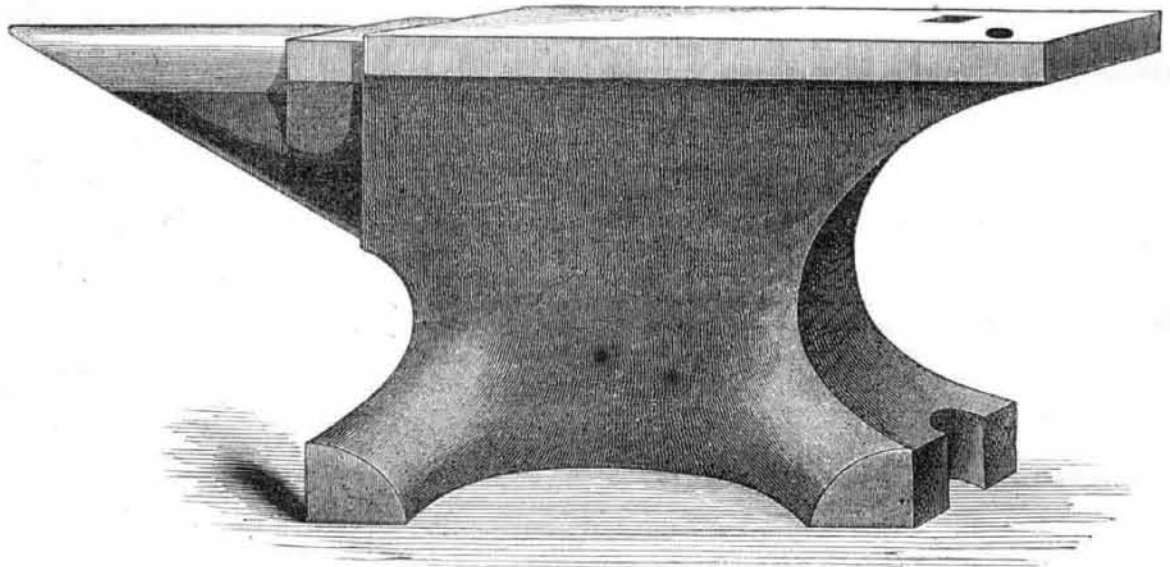
Messrs. J. S. & S. J. Mowry, of Greenville, New London Co., Conn., have taken measures to secure a patent for an improved mode of securing hubs to axles by means of bolts passing longitudinally through the hub; said bolts have nuts on one end, and oblong heads on the other. At the back end of the hub, there is a collar having oblong slots through it; this collar encircles the axle, and a flanch on the axle prevents the hub being withdrawn.

Improved Seed Planter.

D. Haldeman, of Morgantown, Monong'lia, Co., Va., has taken measures to secure a patent for an improved seed planter. He employs a roller encompassed by one or more tires, which can be adjusted to the roller at pleasure, to increase its diameter for planting the seeds at the required distance apart. The seed is distributed by cams attached to the roller spoken of, (which acts like a wheel); these cams operate slides that allow the grain to pass through a plate into a tube which conveys it to the shoe and then into the furrow.

Improved Ox Yoke.

Ezra Hough, of Johnsville, N. Y., has taken measures to secure a patent for an improvement in slide yokes for oxen, which consists in placing the two bows of the yoke in slides, and connecting the slides by means of chains passing over pulleys. The slides fit in mortices in the yoke, and by connecting them, neither of the bows can be moved laterally without communicating a corresponding opposite motion to the other. By this arrangement both the bows are always equidistant apart from the centre of the yoke, and neither of the oxen can obtain an advantage.

IMPROVEMENT IN ANVILS AND VISES.—Fig. 1.

We here give representations of a new invention, in the use of cast-iron, by which cast-steel is perfectly welded on to the surface and horns of anvils and the jaws of vises.

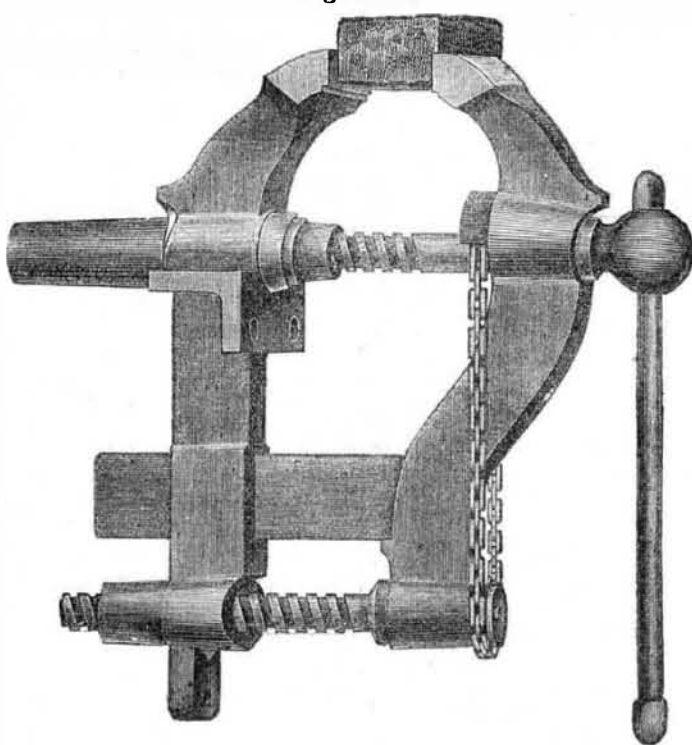
This very useful invention was patented some time ago, by Mark Fisher, then resident in Newport, Maine, and with careful patience he has steadily devoted his energies to its successful application to these tools, with the design to apply it to other uses in the mechanic arts. He has, until now, given little publicity to his invention, as he wished to have it first subjected to the most severe tests of its utility and durability, by the use of the tools so welded, for a sufficient length of time, and for a sufficient varieties of uses, to be able to demonstrate effectually the entire success of the invention.

The above cut of the American Eagle Anvils, introduces to the notice of our readers an

improvement in the manufacture of this staple tool, and we are pleased that American skill has, in this instance, so entirely surpasses the inventive talent of other nations. The foreign anvils have been invariably made of wrought-iron; the faces only have been steel-ed, and owing to the difficulties of welding and tempering steel on so large a mass of metal, it is applied to their faces in two or more thin pieces or strips. By frequent use, one or more of them often proves unsound or of bad temper, and in this country, the repairing is so expensive, as to render such a failure equivalent to a total loss of the anvil. Further, by continuous use, the fibre of the wrought-iron of the foreign anvils yields, and the face of the anvil "settles" (in the language of the smith), thus rendering its surface uneven and unfit for use.

The faces of the American anvils are made

Figure 2.



of a single piece of very thick cast-steel, indissolubly welded and perfectly tempered:—the increased thickness of the steel and its superior quality, supported by the unyielding fibre of the cast-iron below, causes the faces to remain permanently durable and true.

The American anvils, moreover, have their horns steeled, and the point of the horn is solid steel, and for the above reasons these an-

vils, in the opinion of the best judges in this country, founded on severe tests by themselves, cannot fail to supersede all other anvils entirely, as soon as they shall be brought to the notice of consumers. They are made of all sizes and shapes, and are warranted by the manufacturers to prove fully adequate to perform the work of the best foreign anvils of the same sizes.

Fig. 2 is an engraving of a simple and effective smith's vise with a parallel motion of the jaws given by the action of two screws, connected by the endless chain and guided by the sliding bar represented.

These vises are like the above described anvils, made of the best quality of American cast-iron, with the best steel indissolubly welded on to the bite of the jaws; the middle links of the rivets and chains are case-hardened, and the screw-pins, lever, and chain made of best refined iron. This principle of vise was patented by Mr. Matthews, of Worcester, Mass., and since assigned by him to Messrs. Fisher & Norris, who are now engaged in their manufacture, and have given increased value to the original invention, by improving the form and proportions, and employing their own patent welding process to the jaws.

It is not necessary, perhaps, to call attention to the well known advantage of vises with parallel jaws: the testimony of a sufficient number of most competent practical mechanics has been given to the very decided superiority of this invention over all other descriptions of American and foreign vises, and they have fully tested their strength and durability in the performance of any and every description of work which could be performed by relative sizes of vises made by other makers in Europe and America.

This staple tool is, like the anvil above referred to, a triumph of American skill over the obstacles and defects of the vises hitherto employed by our mechanics, and we feel gratified to know that, in future, we shall not only be able to supply ourselves with these primary and important tools, but that we shall be able to obtain a much better article, and, by this invention, have contributed something to the advancement of the mechanic arts at home and abroad.

The manufacturer's wholesale agents in the Atlantic cities are Messrs. Geo. H. Gray and Co., No. 87 Milk st., Boston; Clark, Wilson & Co., No. 13 Cliff st., New York; Curtis & Hand, No. 41 Commerce st., Philadelphia; Hiss & Cole, Baltimore, and the anvils or vises may be had by consumers of all the iron and steel dealers and hardware stores in the United States.

Bending of Iron Pipes.

Pipes of iron will bend "very kindly," and without collapsing, if they be filled, at the part to be bent, with melted lead, and bent immediately the lead has ceased to be fluid; when the wished for curvature is obtained, the lead is easily melted out of the pipe.—[Builder.]